

WHAT IS CLAIMED IS:

1. A sheet-supply device for supplying sheets from a stack of sheets one at a time in a sheet feed direction, the sheet-supply device comprising:

a hopper portion that has an inclined wall for holding a stack of sheets in an inclined position and a lower edge receiving portion for receiving lower edges of the sheets;

a sheet feed mechanism that includes a sheet-supply roller for supplying a topmost sheet from the stack of sheets loaded on the hopper portion;

a first friction member, that is provided at a position near a lower end of the inclined wall of the hopper portion and corresponding to a position where the sheet-supply roller is provided, slidably movable along the inclined wall between a normal position where the friction member is located during a normal sheet feed operation, and a second position upstream of the normal position in the sheet feed direction.

2. The sheet-supply device according to claim 1, wherein the first friction member includes a pad portion having a relatively high coefficient of friction and a base portion having a relatively low coefficient of friction, and wherein the base portion is disposed slidably along the inclined wall of the hopper portion.

3. The sheet-supply device according to claim 2, wherein a frictional coefficient μ of the pad portion meets criteria: frictional coefficient between adjacent sheets $\leq \mu \leq 1.0$.

4. The sheet-supply device according to claim 2, wherein the slidable distance of the first friction member is longer than or equal to a distance that the fed sheet is conveyed upstream in the sheet feed direction after a trailing edge of the sheet is released from the sheet-supply roller in the sheet feed operation.

5. The sheet-supply device according to claim 1, further comprising a second friction member that is provided to the inclined wall and at a position higher than the position where the first friction member is provided.

6. The sheet-supply device according to claim 4, further comprising a detecting unit that detects a leading edge or a width of the fed sheet, wherein the slidable distance of the first friction member is equal to a distance between a point where a print head starts printing and a point where the detecting unit detects the leading edge of the sheet.

7. A printing device having a sheet-supply device for supplying sheets from a stack of sheets one at a time in a sheet feed direction, the sheet-supply device comprising:

a hopper portion that has an inclined wall for holding a stack of sheets in an inclined position and a lower edge receiving portion for receiving lower edges of the sheets;

a sheet feed mechanism that includes a sheet-supply roller for supplying a topmost sheet from the stack of sheets loaded on the hopper portion;

a first friction member, that is provided at a position near a lower end of the inclined wall of the hopper portion and corresponding to a position where the sheet-supply roller is provided, slidably movable along the inclined wall between a normal position where the friction member is located during a normal sheet feed operation, and a second position upstream of the normal position in the sheet feed direction.

8. The printing device according to claim 7, wherein the first friction member includes a pad portion having a relatively high coefficient of friction and a base portion having a relatively low coefficient of friction, and wherein the base portion is disposed slidably along the inclined wall of the hopper portion.

9. The printing device according to claim 8, wherein a frictional coefficient μ of the pad portion meets criteria: frictional coefficient between adjacent sheets $\leq \mu \leq 1.0$.

10. The printing device according to claim 8, wherein the slidable distance of the first friction member is longer than or equal to a distance that the fed sheet is conveyed upstream in the sheet feed direction after a trailing edge of the sheet is released from the sheet-supply roller in the sheet feed operation.

11. The printing device according to claim 7, wherein the sheet-supply device further comprises a second friction member that is provided to the inclined wall and at a position higher than the position where the first friction member is provided.

12. The printing device according to claim 10, further comprising a detecting unit that detects a leading edge or a width of the fed sheet, wherein the slidable distance of the first friction member is equal to a distance between a point where a print head starts printing and a point where the detecting unit detects the leading edge of the sheet.

13. A sheet supply device for a printing device, comprising:
 a paper hopper having a bottom surface, an inclined sheet receiving surface, and a pair of adjustable sheet side edge guides;
 a first friction member slidably received on the inclined sheet receiving surface, the first friction member slideable in an up and down direction relative to the printing device; and
 a sheet feed mechanism including a sheet feed roller, wherein the first friction member is normally located at a first position opposing the sheet feed roller with the sheets therebetween and takes a second position upwardly of the first position under predetermined operating conditions.

14. The sheet supply device according to claim 13, wherein the first friction member has a surface that engages a sheet having a coefficient of friction μ such that:

coefficient of friction between adjacent sheets $\leq \mu \leq 1.0$.

15. The sheet supply device according to claim 13, further comprising a second friction member mounted to the inclined sheet receiving surface above the first friction member.

16. The sheet supply device according to claim 13, wherein the bottom surface includes a third friction member extending in a feed direction and providing a frictional resistance to lead edges, in the feed direction, of the sheets received in the paper hopper.

17. The sheet supply device according to claim 16, further comprising at least one stopper member retractably mounted in an opening in the bottom surface and extending in the feed direction.

18. The sheet supply device according to claim 17, wherein the at least one member comprises two stopper members symmetrically positioned on each side of the third friction member.

19. The sheet supply device according to claim 17, wherein the at least one stopper member is retracted below the bottom surface during sheet feed.

20. The sheet supply device according to claim 17, wherein the at least one stopper member has a saw tooth profile, an opening angle α of each sawtooth between 45° and 90° .